

Introduction to Mathematics with Maple: Maple 8 and Maple 9 update

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Maple update

This book was originally intended to be used with *Maple 7*. There are only a few minor changes needed for the use of either *Maple 8* or *Maple 9*. These are listed below.

Page 15–16 *Original text:*

```
> Digits:=3:1/(22-7*sqrt(2)-7*sqrt(3));
```

$$\frac{1}{22 - 7\sqrt{2} - 7\sqrt{3}}$$

```
> 1/(22-7*sqrt(2.0)-7*sqrt(3.0));
```

```
Error, division by zero
```

We did not ask for division by zero, however, within the precision of three decimals the denominator is approximately equal to zero and this causes *Maple* to issue an error message. If the above number appeared somewhere in a long calculation the process would stop.

Replacement for both Maple 8 and Maple 9:

```
> Digits:=3: 1/(22-7*sqrt(2)-7*sqrt(3));
```

$$(22 - 7\sqrt{2} - 7\sqrt{3})^{-1}$$

```
> 1/(22-7*sqrt(2.0)-7*sqrt(3.0));
```

Float(∞)

This result means that *Maple*'s answer is a number so large that it is out of computer's reach. If the above symbol appeared somewhere in a long calculation the process would either stop or the result would be erroneous.

Page 28 *Comment:*

Maple 8 and *Maple 9* use `_Z1` and `_Z2`, whereas *Maple 7* used `_N1` and `_N2`, respectively.

Page 75 *Comment:*

Maple 9 gives the correct answer and there is no need for any simplification which followed in the original text on pages 76—77.

Page 80 *Comment:*

Maple 8 and *Maple 9* give `false` whereas *Maple 7* gives `Fail`. The result from *Maple 8* and *Maple 9* is saying that the inequality is not true for *all* x .

Page 223 *Comment:*

Our approach to solving the equation `ceq` was intentionally clumsy in order to show that there were some problems in simplification of the result at top of page 223. *Maple 9*, however, is able to cope with the imperfect approach and gives the correct simplified result right away. However the point that one should apply `solve` directly to the equation with numeric coefficients is still valid.

Page 480 *Comment:*

There is a misprint on line 5. The symbol `t5` should be replaced by `t6`.

Page 505 *Comment:*

Both *Maple 9* and *Maple 8* are more powerfull than *Maple 7* and there is no discrepency between the results of `rt2` and `sqrt`.